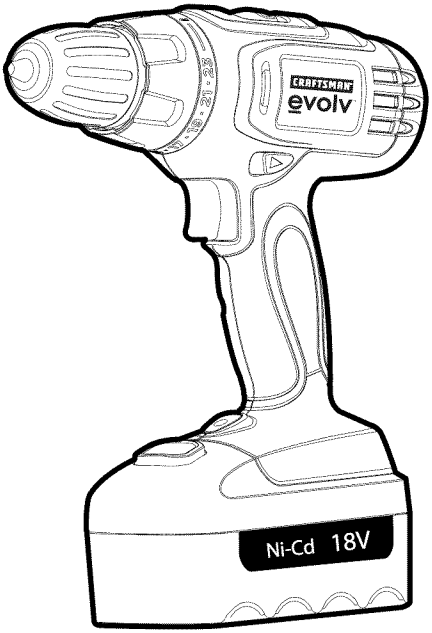
Operator's Manual

CRAFTSMAN

evolv™

18.0-Volt Ni-Cd Cordless 3/8 inch Reversible Drill/Driver

Model No. 320. 30856



C UL US LISTED

⚠ **WARNING: To reduce the risk of injury, the user must read and understand the Operator's Manual before using this product.**

Charge battery before first use.

- **WARRANTY**
- **SAFETY**
- **ASSEMBLY**
- **OPERATION**
- **MAINTENANCE**
- **ESPAÑOL**

Sears Brands Management Corporation, Hoffman Estates, IL 60179 U.S.A.
www.craftsman.com

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CRAFTSMAN EVOLV ONE YEAR LIMITED WARRANTY

FOR ONE YEAR from the date of purchase, this product is warranted against any defects in material or workmanship. With proof of purchase, a defective product will be replaced free of charge.

For warranty coverage details to obtain free replacement, visit the web site: www.craftsman.com

This warranty does not cover bits, which are expendable parts that can wear out from normal use within the warranty period.

This warranty is void if this product is ever used while providing commercial services or if rented to another person.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears Brands Management Corporation, Hoffman Estates, IL 60179

This cordless drill/driver has many features for making its use more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this product making it easy to maintain and operate.

SAVE THESE INSTRUCTIONS!

READ ALL INSTRUCTIONS!

⚠ **WARNING:** Some dust created by using power tools contain chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

SAFETY SYMBOLS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols and the explanations with them deserve your careful attention and understanding. The symbol warnings do not, by themselves, eliminate any danger. The instructions and warnings they give are no substitutes for proper accident prevention measures.

⚠ **WARNING:** Be sure to read and understand all safety instructions in this manual, including all safety alert symbols such as "**DANGER**", "**WARNING**," and "**CAUTION**" before using this drill/driver. Failure to follow all instructions listed in this manual may result in electric shock, fire and/or serious personal injury.

SYMBOL SIGNAL MEANING

⚠ **SAFETY ALERT SYMBOL:** Indicates **DANGER, WARNING, OR CAUTION;** may be used in conjunction with other symbols or pictographs.

⚠ **DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ **WARNING:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION:** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Damage Prevention and Information Messages

These inform the user of important information and/or instructions that could lead to equipment or other property damage if they are not followed. Each message is preceded by the word "NOTICE", as in the example below:

NOTICE: Equipment and/or property damage may result if these instructions are not followed.

⚠ **WARNING:** To ensure safety and reliability, all repairs should be performed by a qualified service technician.

⚠ **WARNING:** The operation of any power tools can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shield and a full face shield when needed. We recommend a Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z87.1

SAVE THESE INSTRUCTIONS

Some of these following symbols may be used on this tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and more safely.

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
~	Alternating Current	Type of current
⎓	Direct Current	Type or a characteristic of current
n_0	No Load Speed	Rotational speed, at no load
⧈	Class II Construction	Double-insulated construction
.../min	Per Minute	Revolutions, strokes, surface speed, orbits, etc., per minute
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
	Read The Operator's Manual	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Eye Protection	Always wear safety goggles or safety glasses with side shields and a full face shield when operating this product.
⚠	Safety Alert	Precautions that involve your safety.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	Hot Surface	To reduce the risk of injury or damage, avoid contact with any hot surface.

SAFETY INSTRUCTIONS

GENERAL POWER TOOL SAFETY WARNINGS

⚠ **WARNING: Read all safety warnings and instructions**. Failure to follow the warnings and instructions listed below may result in electric shock, fire, and/or serious personal injury.

Save all warnings and instructions for future reference.

The term "power tool" in all warnings listed below refers to corded power tools or battery-operated (cordless) power tools.

WORK AREA SAFETY

- **Keep your work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate power tools in explosive environments, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks, which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions may cause you to lose control.

ELECTRICAL SAFETY

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools.** Unmodified plugs and matching outlets will reduce the risk of electric shock.
- **Avoid body contact with grounded surfaces, such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord. Never use the cord for carrying, pulling, or unplugging the power tool. Keep the cord away from heat, oil, sharp edge, or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.
- **Use this drill/driver with only the battery and power unit listed below:**

BATTERY PACK	POWER UNIT
320.30864	HYCH0092400250U

PERSONAL SAFETY

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use the tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat, or hearing protection, used for appropriate conditions, will reduce personal injuries.
- **Prevent unintentional starting. Ensure that the switch is in the OFF-position before connecting to a power source and/or battery, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch turned on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure that these are connected and properly used.** Use of these devices can reduce dust-related hazards.

POWER TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and more safely at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or the battery from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories, tool bits, etc., in accordance with these instructions, taking into account the working conditions and the work to be performed**. Use of the power tool for operations different from those intended could result in a hazardous situation.

BATTERY TOOL USE AND CARE

- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When the battery pack is not in use, keep it away from other metal objects, such as paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, seek medical help.** Liquid ejected from the battery may cause irritation or burns.

SERVICE

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- **Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of shock or injury.

SPECIFIC SAFETY RULES FOR CORDLESS DRILL/DRIVER

- Know your drill/driver. Read the operator's manual carefully. Learn the applications and limitations, as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire or serious injury.
- Hold power tools by their insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.
- Use only the original battery pack and charger. Any attempt to use another battery pack will cause damage to the drill/driver; it could possibly explode or cause a fire or personal injury.
- Wear ear protectors with impact drilling. Exposure to noise can cause hearing loss.

- Use auxiliary handle, if supplied with the tool. Loss of control can cause personal injury.
- Secure the workpiece. Clamping devices or a vise will hold the workpiece in place better than the hand.
- Always wait until the machine has come to a complete stop before placing it down. The tool insert can jam and lead to loss of control over the power tool.
- Before performing any kind of work on the machine (e. g. maintenance, tool change, etc) as well as when transporting and storing it, always set the rotational direction switch to the center position. Unintentional activation of the On/Off switch may result in personal injury.
- Remove the battery pack from the drill/driver before performing any routine maintenance or cleaning.
- Do not disassemble the drill/driver.
- Do not place the drill/driver or battery pack near fire or heat. They may explode.
- Do not dispose of a worn out battery pack by incinerating. Do not incinerate the battery, even if it is severely damaged or completely worn out. The battery may explode in fire.
- Do not operate the drill/driver or the charger near flammable liquids or in a gaseous or explosive environment. Internal sparks may ignite fumes.
- To reduce the risk of electric shock, do not put the drill/driver, battery, or charger in water or other liquid. Do not place or store the product where it can fall or be pulled into a tub or sink.
- Do not permit children to use the drill/driver; it is not a toy.
- The drill/driver worklight lens may produce sufficient heat to melt some fabrics. To avoid serious personal injury, keep the drill/driver worklight free from contact with other items.
- Use protective gloves when removing the bit from the tool, or first allow the bit and chuck to cool down. The bit may be hot after prolonged use.
- Use protective gloves when operating the tool. Protective gloves can help to keep you from being burnt and hurt.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the drill/driver in unexpected situations. Do not use on a ladder or unstable support.
- Do not expose the drill/driver to rainy or wet conditions. Water entering the drill/driver will increase the risk of electric shock.
- Keep your hands away from the motor-housing vents. Hot gas comes from the vents during operation.
- Do not operate the tool at full-load for more than 30 seconds, as this can cause the motor to become too hot, which may damage the motor.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you lend this tool to someone, also lend these instructions.

SAFETY RULES FOR POWER UNIT

⚠ **WARNING:** Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

Before using the power unit, read all instructions and cautionary markings in this manual, on the power unit, and the product using battery to prevent misuse of the products and possible injury or damage.

⚠ **CAUTION:** To reduce the risk of electric shock or damage to the power unit and tool, charge only this Ni-Cd rechargeable tool. Other types of batteries may burst, causing personal injury or damage.

- **Do not use the power unit outdoors or expose it to wet or damp conditions.** Water entering the power unit will increase the risk of electric shock.
- **Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock or injury.** Following this rule will reduce the risk of electric shock, fire or serious personal injury.
- **Do not abuse the cord or power unit.** Never use the cord to carry the power unit. Do not pull the cord rather than the plug to disconnect the plug from the receptacle. Damage to the cord or power unit could occur and create an electric shock hazard. Replace damaged cords immediately.
- **Make sure that the cord is located so that it will not be stepped on, tripped over, come in contact with sharp edges or moving parts or otherwise be subjected to damage or stress.** This will reduce the risk of accidental falls, which could cause injury and damage to the cord, which could result in electric shock.
- **Keep the cord and power unit from heat to prevent damage to housing or internal parts.**
- **Do not let gasoline, oils, petroleum-based products, etc. come in contact with plastic parts.** They contain chemicals that can damage, weaken or destroy plastic.
- **An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure that:**

  1. Pins on the plug of the extension cord are the same number, size and shape as those on the plug on the power unit.
  2. The extension cord is properly wired and in good electrical condition;
  3. The wire size is large enough for AC ampere rating of charger as specified below:

Cord Length (Feet)	25'	50'	100'
Cord Size (AWG)	16	16	16

     NOTICE: AWG = American Wire Gauge

- **Do not operate the power unit with a damaged cord or plug,** which could cause shorting and electric shock. If damaged, have the cord and plug repaired or replaced by a qualified service technician.
- **Do not operate the power unit if it has received a sharp blow, been dropped or otherwise damaged in any way.** Take it to a qualified service technician for an electrical check to determine if the power unit is in good working order.
- **Do not disassemble the power unit.** Replace a damaged or malfunctioning unit.
- **Disconnect the power unit from the electrical outlet when it is not in use.** This will help prevent damage to the power unit during a power surge.
- **Risk of electric shock.** Do not touch the uninsulated portion of the output connector or the uninsulated battery terminal.

IMPORTANT SAFETY INSTRUCTIONS

- **Save these instructions.**
- **Before using the power unit,** read all instructions and cautionary markings on the battery, power unit, and product using battery.

⚠ **CAUTION:** To reduce the risk of injury, charge only this tool. Other types of batteries may burst, causing personal injury or damage.

⚠ **WARNING:** When using electric appliances, basic precautions should always be followed, including the following.

a) To reduce the risk of injury, close supervision is necessary when an appliance is used near children.

b) Only use attachments recommended for this product.

c) Do not use outdoors.

d) To reduce the risk of electrical shock, do not put the Drill/Driver and Battery Pack in water or other liquid. Do not place or store the appliance where it can fall or be pulled into a tub or sink.

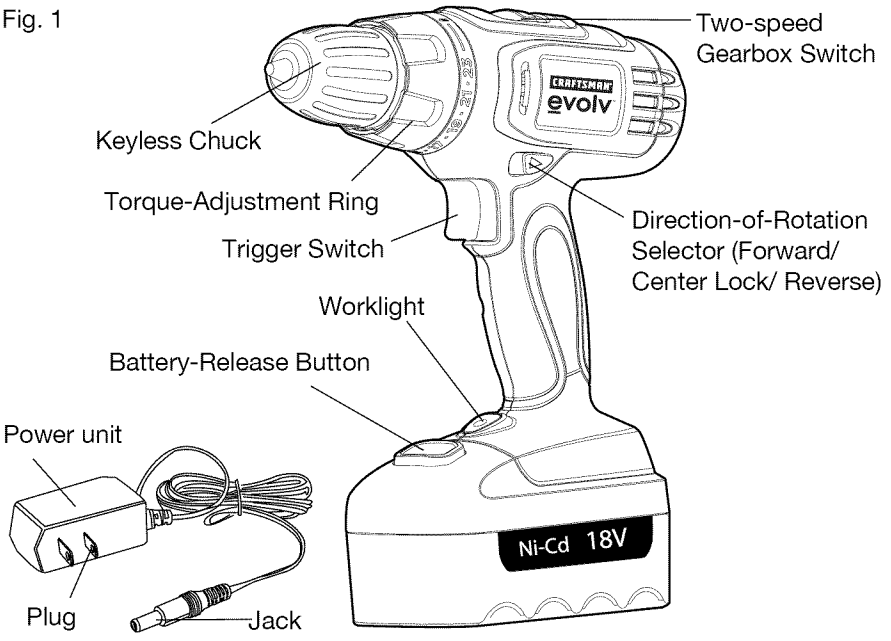
⚠ **WARNING:** Contains nickel-cadmium battery. Battery must be recycled or disposed of properly.

⚠ **WARNING:** Do not dispose of this product in fire, batteries in this product may explode or leak.

DESCRIPTION

KNOW YOUR CORDLESS DRILL/DRIVER (Fig. 1)

Fig. 1



PRODUCT SEPCIFICATIONS	
Motor	18.0 Volt DC
No Load Speed	LO 0-350/HI 0-1300 (RPM)
Chuck	3/8 inch
Clutch	24 Positions
Charging time	5 -7 Hours
Drill /Driver Weight (Without battery)	2.38 lbs
Battery Type	Ni-Cd
Battery Voltage	18.0 Volt DC
Power unit	Mode No.: HYCH0092400250U
	Input: 120V AC 60Hz
	Output: 24V DC 250mA

⚠ WARNING: The safe use of this product requires an understanding of the information on the tool and in this operator's manual, as well as knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

ADJUSTABLE TORQUE

The drill /driver has a 24-position clutch.

TWO-SPEED GEAR BOX

The two-speed gear box is designed for drilling or driving at LO or HI speeds. A slide switch is located on top of your drill/driver for selecting the appropriate speed.

VARIABLE SPEED

The variable-speed trigger switch delivers higher speed with increased pressure and lower speed with decreased trigger pressure.

KEYLESS CHUCK

The keyless chuck allows you to hand-tighten or release the drill bit in the chuck jaws.

FORWARD/CENTER-LOCK/REVERSE

The direction-of-rotation selector located above the trigger switch changes the direction of bit rotation. Setting the trigger switch in the OFF (center-lock) position helps to reduce the possibility of accidental starting when not in use.

LED WORKLIGHT

Pressing the trigger switch illuminates the LED worklight, located on the base of the drill/driver. This feature provides extra light for increased visibility.

ASSEMBLY

⚠ **WARNING:** If any parts are broken or missing, do not attach the battery pack to the drill/driver or operate the tool until the broken or missing parts are replaced. Failure to do so could result in possible serious injury.

⚠ **WARNING:** Do not attempt to modify this drill/driver or create accessories not recommended for use with this drill/driver. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious injury.

⚠ **WARNING:** To prevent accidental starting that could cause serious personal injury, always remove the battery pack from the drill/driver when assembling parts.

UNPACKING

When unpacking the box, do not discard any packing materials until all of the contents are accounted for:

1. Carefully lift the drill/driver out of carton and place it on a stable, flat surface.
2. Open the carton to locate the following:
   - Battery pack
   - Power unit
   - Double-ended bit
   - Manual
3. Inspect the items carefully to make sure that no breakage or damage has occurred during shipping. If any of the items is missing or damaged, return the tool to the store where purchased for replacement.

HOW TO CHARGE THE BATTERY PACK (Fig. 2)

Detach the battery pack from the drill/driver.

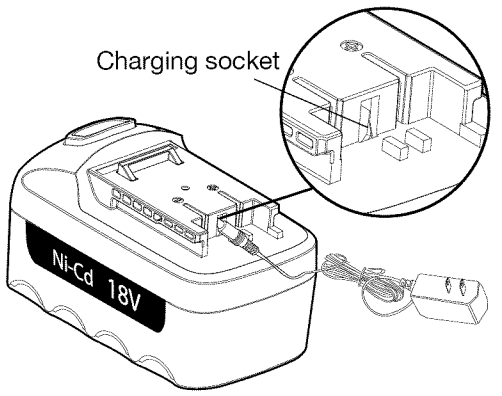
Insert the power unit jack into charging socket, making sure they are properly connected.

Power unit can be used with normal house voltage of 120 volts, 60 Hz, AC only.

Connect the plug of power unit to the electrical outlet. The indicator light on an battery pack shines red when the power unit is plugged into a power source.

Charge the battery for at least 7 hours before the first use.

Fig. 2



For best results, do not recharge the battery for less than 5 hours or more than 7 hours after each use.

Do not place the power unit in an area of extreme heat or cold. It works best at normal room temperature.

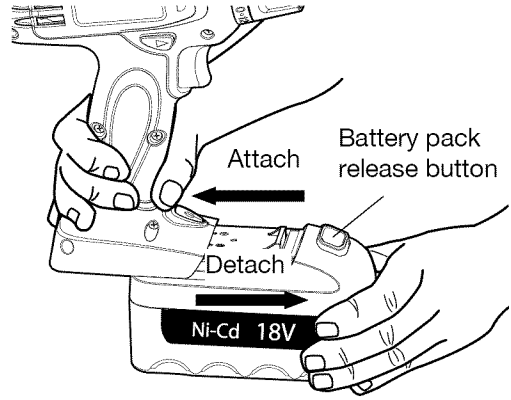
The base of battery or power unit may become warm during charging. This is normal.

TO ATTACH BATTERY PACK (Fig. 3)

1. Lock the trigger switch on the drill/driver by placing the direction-of-rotation (forward/center-lock/reverse) selector in the center position.
2. Align the raised rib on the battery pack with the grooves on the bottom of the drill/driver, and then slide the battery pack onto the base of the drill/driver.

NOTICE: When placing the battery pack on the tool, be sure that the raised rib on the battery pack aligns with the groove on the drill/driver and the latches snap into place properly. Improper assembly of the battery pack can cause damage to internal components.

Fig. 3



TO DETACH BATTERY PACK (Fig. 3)

1. Lock the trigger switch on the drill/driver by placing the direction-of-rotation (forward/center-lock/reverse) selector in center position.
2. Depress the battery release buttons located on the front of the battery pack to release the battery pack.
3. Pull forward on the battery pack to remove it from the tool.

⚠ **WARNING:** Battery tools are always in operating condition. Therefore, the direction-of-rotation selector should always be locked when not in use or when carrying the tool at your side.

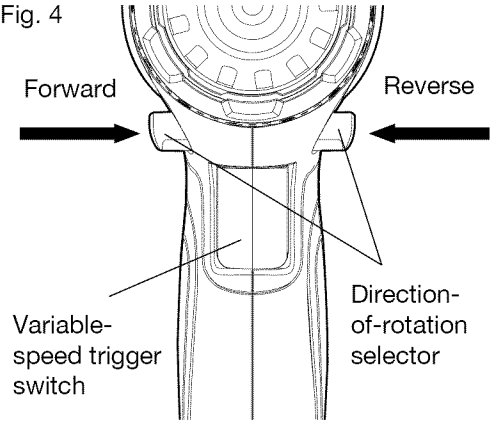
TRIGGER SWITCH (Fig .4)

To turn the drill/driver ON, depress the trigger switch. To turn it OFF, release the trigger switch.

VARIABLE SPEED (Fig. 4)

The variable-speed trigger switch delivers higher speed with increased trigger pressure and lower speed with decreased trigger pressure.

Fig. 4



DIRECTION-OF-ROTATION SELECTOR (FORWARD/ CENTER-LOCK/REVERSE) (Fig. 4)

The direction of bit rotation is reversible and is controlled by a selector located above the trigger switch. With the drill/driver held in normal operating position:

1. Position the direction-of-rotation selector to the right of the tool for forward rotation.
2. Position the direction-of-rotation selector to the left of the tool for reverse rotation.
3. Setting the switch in the OFF (center-lock) position helps to reduce the possibility of accidental starting when not in use.

NOTICE: To prevent gear damage, always allow the drill/driver to come to a complete stop before changing the direction of rotation.

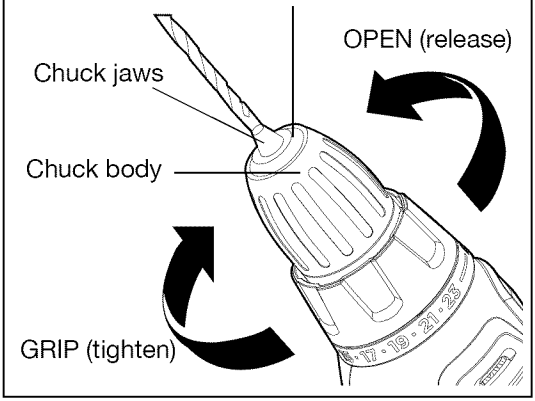
NOTICE: The drill/driver will not run unless the direction-of-rotation selector is engaged fully to the left or right.

ELECTRIC BRAKE

To stop the drill/driver, release the trigger switch and allow the tool to come to a complete stop. The electric brake quickly stops the bit rotation. This feature engages automatically when you release the trigger switch.

NOTICE: This drill/driver is equipped with an electric brake. When the brake is functioning properly, sparks may be visible through the vent slots in the housing. This is normal and results from the action of the brake.

Fig. 5

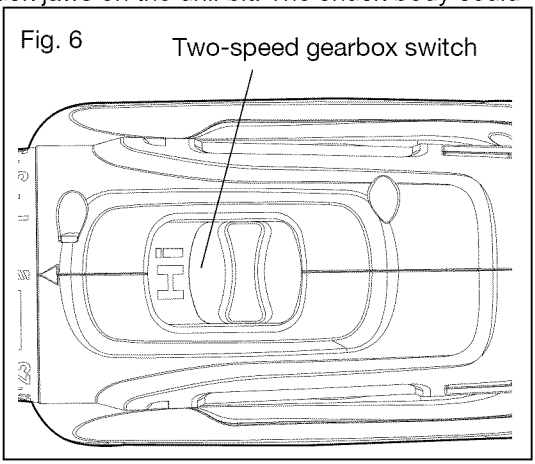


KEYLESS CHUCK (Fig. 5)

The drill/driver has a keyless chuck to tighten or release grip on the drill bits in the chuck jaws. The arrows on the chuck indicate the direction in which to rotate the chuck body to GRIP (tighten) or OPEN (release) the chuck jaws on the drill bit.

⚠ **WARNING:** Do not hold the chuck body with one hand and use the power of the drill/driver to tighten the chuck jaws on the drill bit. The chuck body could slip in your hand, or your hand could slip and come in contact with the rotating bit. This could cause an accident resulting in serious personal injury.

Fig. 6



TWO-SPEED GEARBOX (Fig. 6)

The drill/driver has a two-speed gearbox designed for drilling or driving at LO or HI speeds.

A slide switch is located on the top of the drill/driver to select either LO or HI speed.

Use LO speed for high power (torque) applications and HI speed for fast drilling or driving applications.

Use LO speed for starting holes without a center punch, drilling metals or plastic, drilling ceramics, or in applications requiring a higher torque.

HI speed is better for drilling wood and wood composites and for using abrasive and polishing accessories.

NOTICE: Avoid running the drill/driver at LO speed for extended periods of time. Doing so may cause the drill/driver to become overheated. If this occurs, cool the drill/driver by running it without a load at HI speed.

NOTICE: Never change gears while the tool is running. Failure to obey this caution could result in serious damage to the drill/driver.

ADJUSTABLE-TORQUE CLUTCH (Fig. 7)

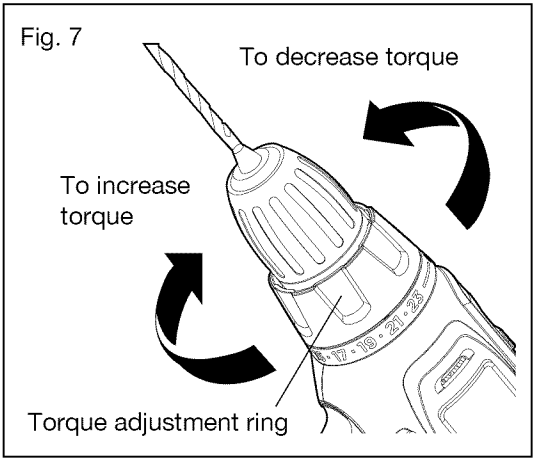
The torque clutch can be adjusted to 24 different settings.

The higher the torque setting, the more force the drill/driver produces to turn an object in either LO or HI rotation speed.

When using the drill/driver for different driving applications, increase or decrease the torque appropriately help prevent damage to screw heads, threads, workpiece, etc.

Adjust the torque by rotating the torque-adjustment ring.

Fig. 7



The proper setting depends on the job and the type of bit, fastener, and material you will be using. In general, use greater torque for larger screws. If the torque is too high, the screws may be damaged or broken.

For delicate operations, such as removing a partially stripped screw, use a low torque setting.

For operations such as drilling into hardwood, use a higher torque setting.

NOTICE: When adjusting the torque clutch make sure that the speed switch is either completely in the LO or HI Position.

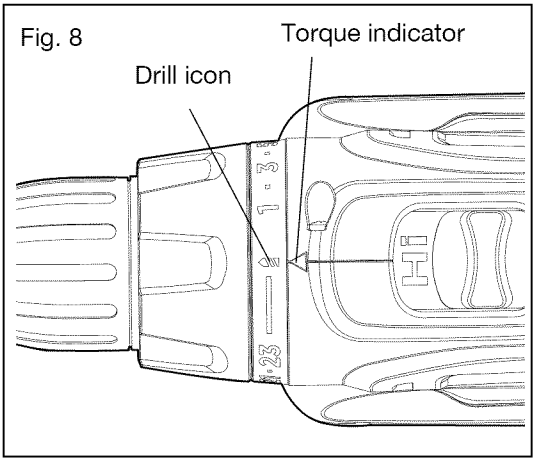
⚠ **CAUTION:** Do not change the torque setting when the tool is running.

DRILL MODE (Fig. 8)

Select the drill mode for drilling and other heavy duty applications.

To select the drill mode, rotate the torque-adjustment ring until the drill icon aligns with the torque indicator and clicks into position.

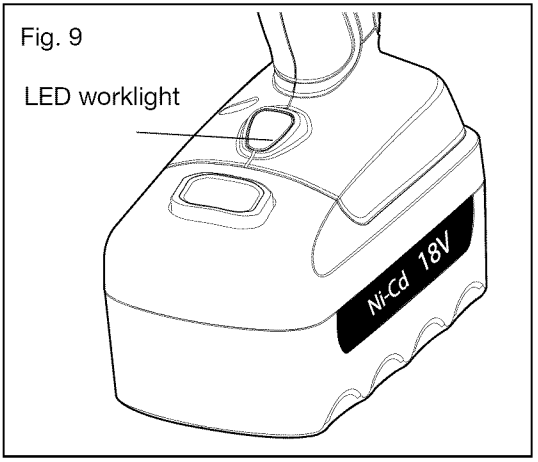
Fig. 8



LED WORKLIGHT (Fig. 9)

The LED worklight, located on the base of the drill/driver, will illuminate when the trigger switch is depressed. This provides additional light on the surface of the workpiece for operation in lower-light areas.

The LED worklight will turn off when the trigger switch is released.



INSTALLING BITS (Fig. 10)

1. Remove the battery.
2. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (center) position.
3. Open or close the chuck jaws to a point where the opening is slightly larger than the bit size you intend to use.
4. Raise the front of the drill/driver slightly to keep the bit from falling out of the chuck jaws.
5. Insert a drill bit.

NOTICE: Rotate the chuck body in the direction of the arrow marked GRIP to close the chuck jaws. Do not use a wrench to tighten or loosen the chuck jaws.

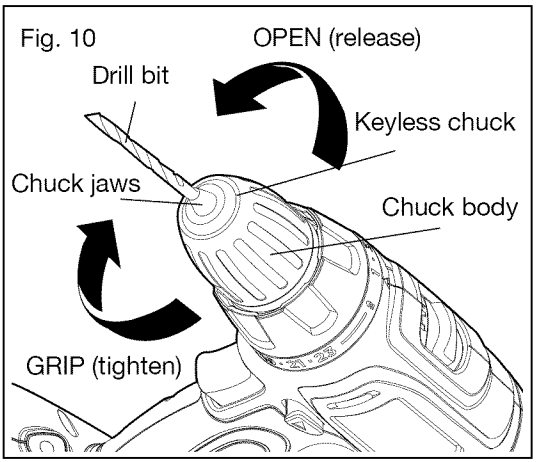
6. Tighten the chuck jaws securely on the bit.

REMOVING BITS (Fig. 10)

1. Remove the battery.
2. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (center) position.
3. Open the chuck jaws.

NOTICE: Rotate the chuck body in the direction of the arrow marked RELEASE to loosen the chuck jaws. Do not use a wrench to tighten or loosen the chuck jaws.

4. Remove the drill bit.



⚠ **WARNING:** Make sure to insert the drill bit straight into the chuck jaws. Do not insert the drill bit into the chuck jaws at an angle and then tighten, as shown in figure 11. This could cause the drill bit to be thrown from the drill/driver, resulting in possible serious personal injury or damage to the chuck.

DRILLING (Fig. 12)

1. Check that the direction-of-rotation selector is set to Forward.
2. Secure the material to be drilled in a vise or with clamps to keep it from turning as the drill bit rotates.
3. Hold the drill/driver firmly, and place the bit at the point to be drilled.
4. Depress the trigger switch to start the drill.
5. Move the drill/driver bit into the workpiece, applying only enough pressure to keep the bit cutting. Do not force the drill/driver or apply side pressure to elongate a hole. Let the tool do the work.
6. When drilling hard, smooth surfaces, use a center punch to mark the desired location of the hole. This will prevent the drill bit from slipping off-center as the hole is started.
7. When drilling metals, use light oil on the drill bit to keep it from overheating. The oil will prolong the life of the bit and increase the drilling action.
8. If the bit jams in the workpiece or if the drill/driver stalls, stop the tool immediately. Remove the bit from the workpiece and determine the reason for jamming.

Fig. 11

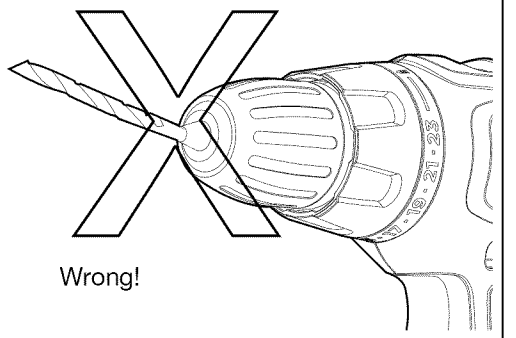
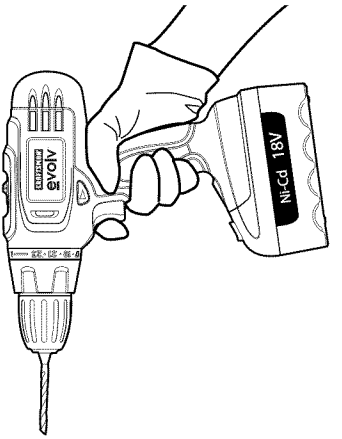


Fig. 12



WOOD DRILLING

For maximum performance, use high-speed steel or brad-point bits for wood drilling.

1. Begin drilling at a very low speed to prevent the bit from slipping off the starting point.
2. Increase the speed as the drill bit bites into the material.
3. When drilling "through" holes, place a block of wood behind the workpiece to prevent ragged or splintered edges on the back side of the hole.

METAL DRILLING

For maximum performance, use high speed steel bits for metal or steel drilling.

1. When drilling metals, use light oil on the drill bit to keep it from overheating. The oil will prolong the life of the bit and increase the drilling action.
2. Begin drilling at a very low speed to prevent the bit from slipping off the starting point.
3. Maintain a speed and a pressure that will allow cutting without overheating the bit or drill/driver. Applying too much pressure will:

   Overheat the drill/driver.

   Wear the bearings.

   Bend or burn bits.

   Produce off-center or irregularly shaped holes.

MASONRY DRILLING

For maximum performance, use carbide-tipped masonry bits when drilling holes in brick, tile, concrete, etc.

1. Maintain a speed and a pressure that will allow cutting without overheating the bit or drill/driver. Applying too much pressure will:

   Overheat the drill/driver.

   Wear the bearings.

   Bend or burn bits.

   Produce off-center or irregularly-shaped holes.
2. Apply light pressure and medium speed for best results in brick.
3. Apply additional pressure for hard materials, such as concrete.
4. When drilling holes in tile, practice on a scrap piece to determine the best speed and pressure.
5. Begin drilling at a very low speed to prevent the bit from slipping off the starting point.

⚠ **WARNING:** Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

⚠ **WARNING:** To ensure safety and reliability, all repairs should be performed by a qualified service technician.

WARNING: When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

WARNING: Do not at any time allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

WARNING: When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage. To ensure safety and reliability, all repairs should be performed by a qualified service technician.

CHUCK REMOVAL (Fig. 13-15)

The chuck can be removed and replaced with a new one.

1. Remove the battery.
2. Lock the trigger switch by placing the direction-of-rotation selector in the center position.
3. Open the chuck jaws.

Fig. 13

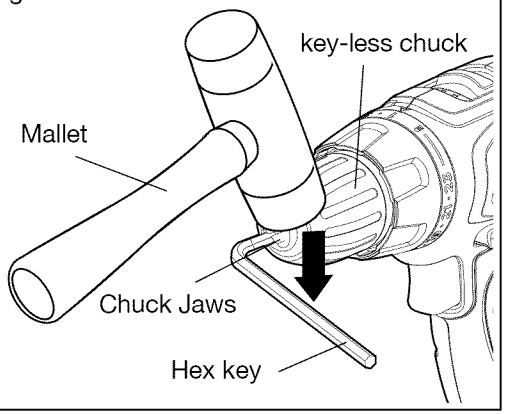


Fig. 14

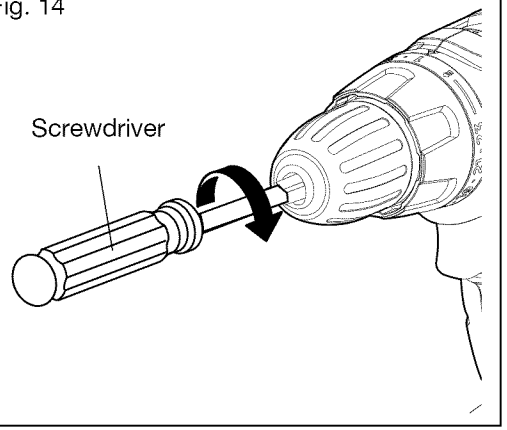
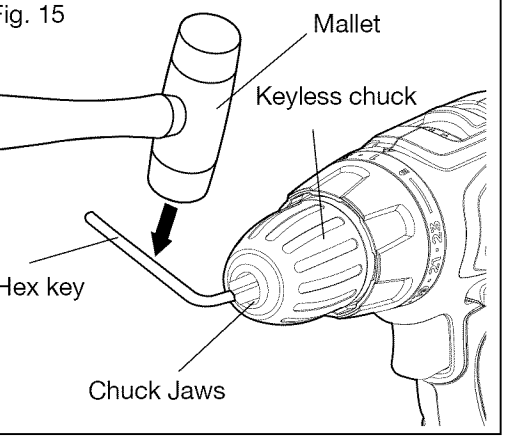


Fig. 15



4. Insert a 5/16 inch or larger hex key into the chuck of the drill/driver and tighten the chuck jaws securely.
5. Tap the hex key sharply with a mallet in a clockwise direction. This will loosen the screw in the chuck for easy removal.
6. Open the chuck jaws and remove the hex key. Using a screwdriver, remove the chuck screw by turning it in a clockwise direction.

NOTICE: The chuck screw has left-handed threads.

7. Insert the hex key into the chuck and tighten the chuck jaws securely. Tap sharply with a mallet in a counterclockwise direction. This will loosen the chuck on the spindle. It can now be unscrewed by hand.

TO RETIGHTEN A LOOSE CHUCK

The chuck may become loose on the spindle and develop a wobble. Also, the chuck screw may become loose, causing the chuck jaws to bind and prevent them from closing.

To tighten a loose chuck or chuck screw:

1. Remove the battery.
2. Lock the trigger switch by placing the direction-of-rotation selector in the center position.
3. Open the chuck jaws.
4. Insert the hex key into the chuck and tighten the chuck jaws securely. Tap the hex key sharply with a mallet in a clockwise direction. This will tighten the chuck on the spindle.
5. Open the chuck jaws and remove the hex key.
6. Using a screwdriver, tighten the chuck screw by turning the chuck screw in a counterclockwise direction.

⚠ **WARNING:** Always wear safety glasses with side shields during maintenance.

⚠ **WARNING:** To ensure safety and reliability, all repairs should be performed by a qualified service technician.

⚠ **WARNING:** To avoid serious personal injury, always remove the battery pack from the tool and unplug the charger when cleaning or performing any maintenance.

BATTERIES:

The battery pack is equipped with nickel-cadmium rechargeable batteries. The duration of use from each charge will depend on the type of work performed.

The batteries in this tool have been designed to provide maximum trouble-free life. Like all batteries, they will eventually wear out. Do not disassemble the battery pack or attempt to replace the batteries. Handling of the batteries, especially when wearing rings and jewelry could result in a serious burn.

To obtain the longest possible battery life, read and understand the operator's manual.

- It is good practice to unplug the adapter and remove the battery pack when not in use.

For Ni-Cd battery pack storage longer than 30 days:

- Store the battery pack where the temperature is below 80°F (26°C) and free of moisture.
- Store battery packs in a "discharged" condition.
- Exterior may be cleaned with a cloth or soft non-metallic brush.

BATTERY PACK REMOVAL AND PREPARATION FOR RECYCLING

To preserve natural resources, please recycle or dispose of batteries properly. This product contains nickel-cadmium batteries. Local, state, or federal laws may prohibit disposal of nickel-cadmium batteries in ordinary trash. Consult your local waste authority for information regarding available recycling and/or disposal options.

⚠ **WARNING:** Upon removal of the battery pack for disposal or recycling, cover the battery pack terminals with heavy-duty adhesive tape. Do not attempt to destroy or disassemble the battery pack or remove any of its components. Nickel-cadmium batteries must be recycled or disposed of properly. Also, never touch the terminals with metal objects and/or body parts as a short circuit may result. Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.

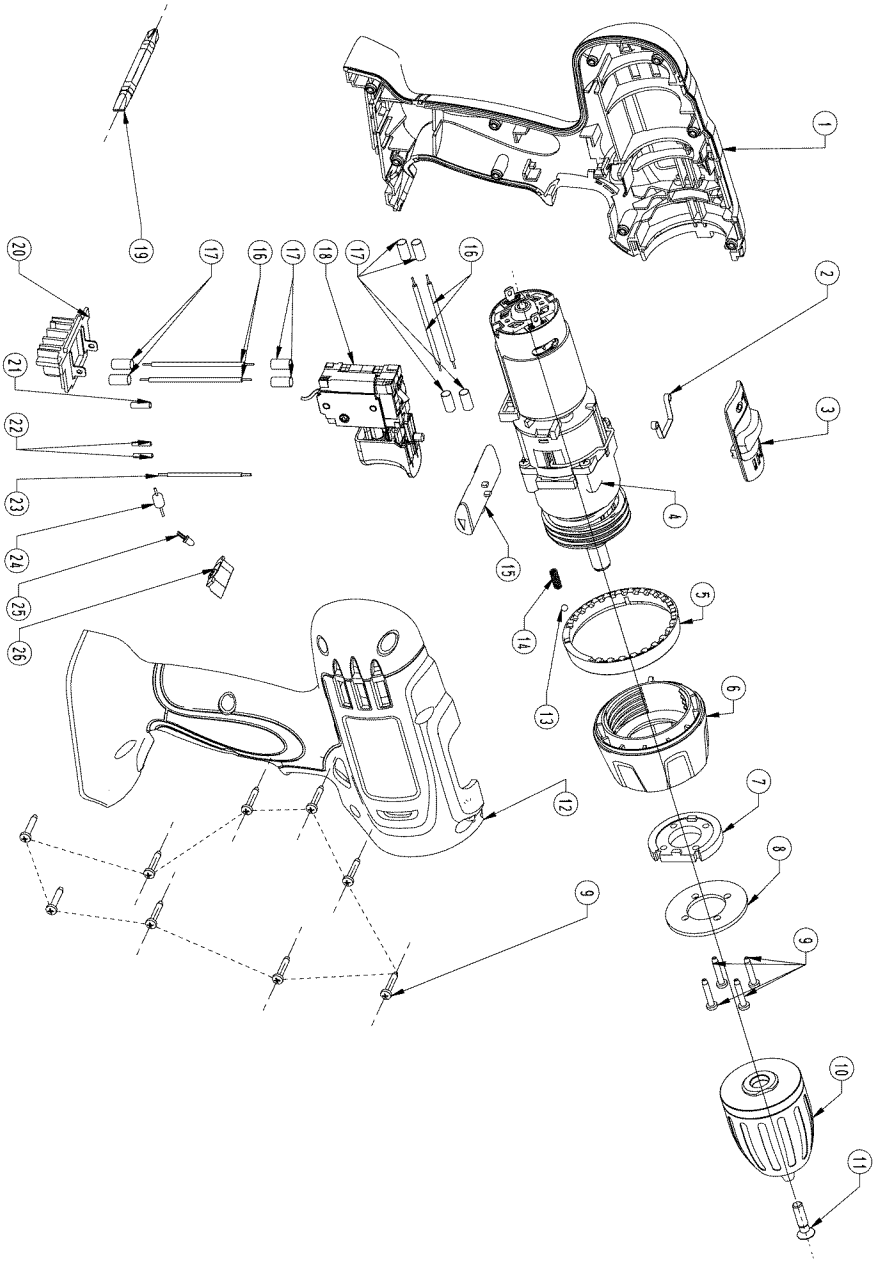
TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The drill/driver does not work	Battery is depleted	Charge the battery
Bit cannot be installed	Chuck is not open	Open the chuck
Motor overheating	Be sure cooling vents are free from saw dust and obstacles	Clean, clear vents. Do not cover with hand during operation
Chuck wobbles	Chuck is loose	Retighten chuck
	Chuck is worn	Replace chuck

PARTS LIST

18.0 VOLT NI-CD CORDLESS DRILL/DRIVER MODEL NO. 320. 30856

The Model Number will be found on the Nameplate attached to the right side of the drill/driver. Always mention the Model Number when ordering parts for this tool.



PARTS LIST

No	Part No	Part Name	QTY
1	3321267000	Left Housing Assembly	1
2	3700961000	Stop Spring	1
3	3126128000	Speed Change Button	1
4	2790267000	Motor and Gear Case Assembly	1
5	3126131000	Clutch Indicator Ring	1
6	3126129000	Clutch Cap	1
7	3123494000	Spring Holder	1
8	3704024000	Mounting Plate	1
9	5610013000	Screw	13
10	3860086000	Chuck	1
11	5620179000	Screw (L.H.)	1
12	3321268000	Right Housing Assembly	1
13	5700178000	steel ball	1
14	3660466000	spring	1
15	3125876000	F/R Button	1
16	4860003000	Inner Wire	4
17	4920156000	Shrinkable Tube	8
18	4870452000	Trigger Switch	1
19	3810357000	Screw Bit	1
20	3402517000	Contact Receptacle Assembly	1
21	4920154000	Shrinkable Tube	1
22	4920158000	Shrinkable Tube	3
23	4860007000	Inner Wire	1
24	4120312000	Lead Resistor	1
25	4360225000	LED	1
26	3126130000	LED Cover	1

NOTE

NOTE